DOCUMENT RESUME

ED 039 936 PS 003 055

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TITLE Emotional Development in the First Two Years.
INSTITUTION Cornell Univ., Ithaca, N.Y. Cornell Research Program in Early Childhood Education.; National Lab. on Early Childhood Education.
PUB DATE Dec 69
NOTE 25p.; Paper to be included in the forthcoming volume "Developmental Psychology: An Introduction," being prepared for publication by CRM Books, 1970
AVAILABLE FROM CRM Associates, 1330 Camino Del Mar, Del Mar, California 92014

EDRS PRICE EDRS Price MF-$0.25 HC Not Available from EDRS.
DESCRIPTORS *Affective Behavior, Anxiety, Child Psychology, *Emotional Development, Fear, Individual Differences, *Infant Behavior, Parent Child Relationship, Psychological Needs, *Psychological Patterns, Social Reinforcement

ABSTRACT

Concerning the issues of emotional development, general agreement can only be reached on the definition of "emotional" behavior. Behavior is emotional when it varies from an individual's behavioral baseline by the addition of three components: (1) an action component, (2) an arousal component, and (3) a subjective "feeling" component. In all areas of infantile emotion researchers have attempted to delineate such basic groundwork as "primitive, unlearned emotions," but subsequent study has indicated that their conclusions are more the result of situational and subjective factors than of measurable, objective data. Infant emotions are divided into negative and positive categories in this paper. Discussion of specific emotions includes fear of strangers and maternal attachment, other fears and anxiety. A broad developmental outline of responses to fear-inducing stimuli is given. Other negative emotions, such as anger, depression, and shame are discussed. The paper also outlines some of the work that has been done with positive emotions and concludes with comments on the functional significance of emotions in early development. (MH)

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EMOTIONAL DEVELOPMENT IN THE FIRST TWO YEARS[1]

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In approaching the question of emotional development in the first two years of life, the first problems we have to deal with are problems of definition and conceptualization. Can we really talk meaningfully about "emotions" or "affects" in the human infant? If so, how do we define emotion? The general problem of defining the nature of emotions in man has challenged psychologists, biologists, and other scholars for a good many years. Despite variations in details of definition, many investigators would agree with the general view that we would be inclined to regard a particular behavior as "emotional" when it represents an appreciable change from an individual's typical behavioral "base line" (Hebb 1946a) and where this change typically involves the following three components: a) a behavioral or action component, in the form of approach, acceptance, or stimulus-maintaining behaviors on the one hand, or withdrawal, rejection, avoidance or stimulus-terminating behavior on the other; b) an arousal or activation component, indicated by physiological or visceral changes, changes in activity or level of excitement, etc.; c) a subjective or hedonic component, involving changes along a pleasure-displeasure or "feeling" continuum (Hamburg 1963; Ricciuti 1968).

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1. Review written (December 1969) for inclusion and adaptation in forthcoming volume "Developmental Psychology: An Introduction" being prepared for publication by CRM Books ("Psychology Today") as an introduction to the field for the general reader (1970).

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The last component mentioned, that of subjective state or "feeling", is the most troublesome and controversial one conceptually, since it is the most difficult to assess particularly in infants, who obviously cannot report and describe their subjective feelings and perceptions.

Emotional responses are most readily differentiated in terms of whether they are generally pleasant (positive or "integrative") on the one hand, or generally unpleasant (negative or "disintegrative") on the other. Once we go beyond this gross differentiation in terms of pleasure or displeasure, it becomes extremely difficult to identify and classify the many specific emotions observed and experienced by adults, although a variety of schemes for achieving this objective have been developed by different investigators. Specific emotions are sometimes differentiated on the basis of the level of arousal or excitement involved (Tomkins 1962) (e.g., interest versus delight); sometimes on the basis of the nature of the individual's behavioral response to the eliciting stimulus (Hebb 1946b) (e.g., rage, expressed by attack--versus fear, expressed in avoidance or flight); sometimes on the basis of the individual's perception of the circumstances of the situation and his relationship to it (Schachter 1964) (e.g., jealousy, as a reaction to threatened or actual displacement in a valued relationship with someone else--versus humiliation or shame, as a reaction to failure to meet standards or expectations which are highly valued by oneself and by others whose approval and disapproval are important).

It is obvious that some of the subtle differentiations in emotional responses just mentioned require the ability to think analytically about oneself and one's relationship to others in the social environment. Can emotional responses of this sort occur as early as the first two years of life? In fact, what emotional responses are present at birth, if any? At

what points in subsequent development can we identify various specific emotions, and what are the stimulus situations which elicit emotional responses of various sorts during this period of early development? These are some of the principal questions to which research workers have been addressing themselves for many years. Let us consider some of the principal findings reported by these investigators.

The General Course of Emotional Development in the First Two Years

Insofar as the newborn and very young infant is concerned, a good many years ago Watson and Morgan (1917) proposed that the human infant was born with the three unlearned emotions of "fear", "love", and "rage" already in his repertoire of responses, and that all other human emotions developed from this original trio by conditioning. Watson and Morgan inferred "fear" from the infant's eye-blinking, clutching of the hands, and crying upon loss of support or presentation of a loud noise; "love" from the gurgling, cooing or cessation of crying that occurred when the infant was patted, gently rocked, stroked in the erogenous zones, etc.; and "rage" from the crying, stiffening of the body, and arm and leg movements produced by restraining or hampering the infant's movements. Some years later, Sherman (1927), who like others was unable to confirm Watson and Morgan's findings, showed that observers tend to make their judgments of emotional reactions in the young infant primarily on the basis of their knowledge of the stimulating circumstances, and their own experiences and expectations concerning emotional responses in adults. Without knowledge of the stimuli being applied to the infants, Sherman's observers were unable to agree in differentiating patterns of response that one might label "fear", "rage", and "love".

It is rather generally agreed today that in the first few days of life we can differentiate reliably only between states of quiescence or inactivity and states of increased activation or excitement. Since the latter are often associated with crying, some believe that one can speak of negative excitation or primitive "unpleasure" reactions even at this early point in development (e.g., Spitz 1950). Bridges (1932) on the other hand, proposes that the excitement of the newborn is neither positive or negative emotionally, and that it is not until the end of the first month that we can reliably speak of negative or "distress" reactions being differentiated from quiescence. By about the third month of age, the infant begins to show clearly differentiated pleasure responses, seen most readily in the smiling, vocalizations and heightened bodily activity constituting the infant's typical social response to the friendly approach of another person (Gewirtz 1965; Ambrose 1961; Bridges 1932; Spitz & Wolf 1946). From this point on, as development progresses during the first two years, the infant manifests more highly differentiated forms of both positive and negative emotional responses.

One framework for describing this progressive emotional differentiation was proposed by Bridges a good many years ago (1930, 1932). She suggested that out of the "distress" reactions first observable at one month of age, the more specific negative emotions of anger, disgust, and fear became differentiated by about six months of age while jealousy is not seen as a distinct negative emotion until close to eighteen months of age. Similarly, from the "delight" responses clearly observable by two to three months of age, the more specific positive emotions of elation and affection are differentiated by about one year of age, and by the second year the more serene and sometimes intense emotion of "joy" is also observable. Just how valid these kinds of distinctions are and how best

to conceptualize, observe, and identify the various emotional responses developing in the first two years of life are still matters of great concern to investigators in this field (Escalona 1953; Spitz 1963; Schmale 1964; and Wolff 1966).

Fear of Strangers and Maternal Attachment

Among the most important developmental changes in emotional responses in the first two years are those involved in the infant's reactions to and relationships with other people. By approximately five or six months of age, the pleasureful social responses previously shown to virtually any friendly, talking, smiling person are now manifested more selectively, primarily in response to familiar persons like mother or father. At this point the infant becomes somewhat less positively responsive to strangers, and as the end of the first year approaches, many infants respond to the approach of a stranger with considerable distress or fear (sometimes referred to as "eight months anxiety" or "stranger anxiety") (Morgan and Ricciuti 1969).

During this same period of development, the infant's affectional attachments to specific adults like the parents, which begin to appear at about five or six months of age become more marked and clearly delineated. This specific attachment or "focused relationship" (Yarrow 1964) is revealed not only by the infant's positive emotional responses shown selectively to the mother or other principal caretaker, but also by the marked negative reactions and strong efforts to regain proximity which often follow even brief separation from the mother figure (often referred to as "separation anxiety" or "separation protest").

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Fear of strangers and maternal attachment, which have roughly similar developmental "time tables", have been found to be interrelated in a

number of other interesting ways, both in humans and in a variety of animal species. For example, if the infant's mother is close by, his fear of strange stimuli tends to be attenuated, and he is more likely to explore a strange environment (Rheingold 1969). Morgan and Ricciuti (1969) for example found that at eight, ten, and twelve months of age, babies tended increasingly to respond more positively and/or less negatively to the approach of a stranger if they were seated on mother's lap rather than four feet away from her. At four or six months of age, however, before attachment to mother had been fully developed, this separation of four feet from mother made little or no difference--the infants responded positively to the stranger in either case. The influence of proximity to mother in reducing fear of the strange has been found even when the "mother" happens to be a cloth-covered surrogate mother to which infant Rhesus monkeys had been "attached" (Harlow 1961), or a styrofoam rectangle to which Peking ducklings had been "imprinted" (Stettner and Tilds 1966).

How can we explain the fear of strangers, commonly observed in many infants toward the end of the first year of life? Arguing from a basically psychoanalytic point of view, Spitz (1950) has proposed that the infant's fear of strangers is essentially triggered by the threat of "object loss", i.e., the presence of the stranger suggests an imminent separation from mother, so that the basic response is fear of separation. It is certainly true that some infants may have learned to make this specific association on the basis of their particular experience. However, many investigators regard the initial appearance of fear of strangers in infants as a special case of the more general fear of the incongruous, uncanny, or unexpected which is observed in the young of many species and in human infants as early as three to four months of age (Freedman 1961; Hebb 1946; Morgan and Ricciuti 1969). This negative reaction to the strange or uncanny is

accompanied by a hasty return to mother or to a "haven of safety" (Bowlby 1960). Hence fear of the strange and the "flight response" may well have had high adaptive or survival value in an evolutionary sense.

It should be mentioned at this point that strange, uncanny, or incongruous stimuli often produce investigatory behavior and curiosity, as well as fear. A good deal of thought and study is being directed to the analysis of the stimuli producing these responses, and of the responses themselves (Berlyne 1966; Charlesworth 1966, 1969). Since many of the responses to strange and incongruous stimuli seem to represent a mixture of positive and negative reactions, considerable thought is being given to the analysis of these ambivalent or conflictful emotional responses (Ricciuti 1968).

While fear of strangers is a common occurrence in infants toward the end of the first year and into the second year of life, some infants show marked reactions of this sort, while others show little or none. Our research has not yet provided an adequate explanation of these wide individual differences, although it is reasonable to assume that fear of strangers might be less marked in infants who have experienced rather wide contact with a variety of strangers, under circumstances which attenuate the initially fearful reactions which are likely to occur.

Other Specific Fears and the Question of Anxiety

Thus far in our discussion we have focused primarily on the interrelated phenomena of fear of maternal separation, fear of strangers, and fear of the uncanny, incongruous, or unexpected. What can be said further about other specific fears, and about the more general question of anxiety in infants? There are many stimuli which produce clear crying, distress, and primitive avoidance reactions in newborns and very young infants (e.g.,

sudden loud noises, unexpected events, physical pain, etc.) and many observers have tended to label these responses as "fear" reactions. Strictly speaking, it is probably unwise to consider such early responses as involving fear until the infant has sufficiently well developed cognitive and memory capacities so that the perceptual and emotional experiences elicited in a particular situation are capable of being related by the infant to his past experience, and begin to influence his response to future situations in an anticipatory fashion. A number of investigators feel that one cannot begin to speak of fear in the sense just indicated until the infant is just beyond six months of age, approximately (Spitz 1963; Bridges 1932). It should also be pointed out that with increasing development, in addition to learning to fear various stimuli on the basis of his own emotional experience, the older infant may also begin to learn from parents and other people that certain objects or situations may be dangerous and hence to be feared (e.g., fear of snakes, which is not found before the age of two) (Jones and Jones 1928).

An illustration of the manner in which specific fears change with increasing maturation and development is provided by the early studies of Jersild and Holmes (1935). Sudden loud noises were reported by parents to represent the most common source of fear reactions in the first year, with fear of animals and fear of the dark being reported relatively infrequently. During the next year or two however, fear of loud noises tended to decrease, while the other fears mentioned tended to increase. Rather similar developmental trends are reported in a very recent study (Scarr and Salapetek 1970), indicating that from five to eighteen months, approximately, there tended to be an increase in infants' fear responses to strangers, to a grotesque mask, and to a visual cliff (requiring the infant to crawl on to a glass surface raised some distance above the floor). On the other hand,

fear of loud noises or a suddenly appearing jack-in-the-box tended not to increase over this same time period.

While the terms "fear" and "anxiety" are often used interchangeably, they frequently are employed differentially to distinguish between reactions to specific fear-inducing stimuli on the one hand, and on the other, a more diffuse all-pervading sense of fearfulness and emotional distress which is not elicited primarily by a particular situation or event. For psychoanalytically oriented investigators, anxiety has always been a core concept. Freud (1926) and other early psychoanalysts developed a number of hypotheses about the nature of anxiety in infancy, based primarily on their clinical experience with adults. In more recent years, on the basis of an increasing body of clinical observations of both normal and atypical infants, psychoanalytically oriented child psychiatrists and psychologists have continued to provide many valuable theoretical insights regarding the nature and development of anxiety, and more generally of the affects or emotions, in human infancy.

According to these views, the earliest precursor of anxiety (or perhaps anxiety in its "primary" form), is represented by those states of excessive excitation or stimulation in which young infants and even the newborn find themselves, frequently under circumstances where reduction or discharge of this excitation is difficult or delayed. Since the infant's mother is the principal agent through which excessive levels of stimulation or physiological need are reduced, the infant soon comes to fear her absence or unavailability as a primary need reducer, so that fear of loss of the loved object (mother) becomes the "fundamental" form of anxiety later on in the first year of life (Freud 1926; Spitz 1950).

It is of course extremely difficult, if not impossible, to try to specify what the very young infant's subjective experience is like when, for

a variety of reasons, he is in a condition of excessively heightened stimulation or excitation. As already indicated, some workers are quite ready to label many such reactions as "anxiety" or "fear" even in the newborn. Other investigators have been concerned with determining the manner in which the infant's subjective awareness of the displeasure associated with excessive stimulation must change with increasing development, becoming gradually more differentiated and linked to specific aspects of the infant's experience with external reality (e.g., Schmale 1964). Spitz for example (1950, 1963) has suggested that the negative excitation of the infant in the first six weeks or so should be regarded as representing a primitive kind of "unpleasure" rather than as a true emotion of fear or anxiety. By approximately three months of age, when the infant is capable of showing clear pleasure responses to people, his unpleasure reactions may begin to be associated with specific aspects of his experience, so one can begin to speak of these responses as representing an early form of fear. It is not until the infant has reached the age of six to nine months however that he can be said to manifest "anxiety proper". Thus, as was the case with Freud, Spitz proposes that the fundamental anxiety in man, which appears by the end of the first year of life, is anxiety concerning possible loss of the loved object. "It is from these modest beginnings that anxiety will rapidly develop, by becoming a signal for the approach of danger situations; situations that is, in which a breakthrough from the inside or outside threatens the integrity of the ego". (Spitz 1950).

Other Negative Emotions

In addition to anxiety and fear reactions, there are several other negative emotional responses which can be observed reliably and appear to be of considerable significance during the first two years of life.

Anger

Let's consider first the question of anger in infancy. Anger might be defined generally as an emotional response involving aggressive behavior (or impulse) directed towards some person or object, usually instigated by thwarting or frustration of some desired goal. According to Bridges' observations (1932) we can begin to see early forms of anger when the infant is approaching the sixth month of age. Considering this question from a psychoanalytic point of view, Schmale (1964) similarly suggests that early forms of anger are observable shortly before the sixth month of life just prior to the emergence of specific fear reactions. He considers this early subjective experience of anger as reflecting the infant's awareness that gratification is not available from an object or activity which previously provided such gratification when the infant sought it. As such, "it indicates a desire to force an object to provide what is wanted", leading eventually to aggressive actions directed toward the object. Again, we need to be careful not to assume that these early "feelings" of anger are equivalent to the emotion or affect which we identify in older children and adults as "hostility", involving a desire or intent to hurt another person. While these two emotions are closely related and overlapping, it is not at all clear at what point the older infant becomes capable of experiencing hostility as distinct from anger.

In an early study based primarily on parental observations, Goodenough (1931) reported that after six months of age, infants' anger outbursts increased to a peak at about eighteen months, during which time their reactions to thwarting tend to be rather direct, immediate, and somewhat explosive (e.g., temper tantrums). Between eighteen months and four to five years, outbursts of anger decline sharply, and children's reactions are more likely to involve indirect modes of expression and more adaptive

ways of coping with thwarting or frustration. In this study, anger outbursts tended to occur more often when the children were fatigued, hungry or not feeling well, and in situations where they had apparently always been "given in to". Closely related to the anger responses we've been discussing is the tendency of children, particularly between fifteen and thirty months of age, to resist and say "no" to what appears to be virtually all requests made of them by parents and others (the well known phenomenon of "negativism" or "resistance").

It is obvious that the increasing anger reactions shown by infants up to the middle or end of the second year, and the continuation of these responses in somewhat different form for some time thereafter, are not simply a reflection of developmental changes in the child's mode of responding to the demands of reality. The prevalence of these various anger reactions in the second and third year of life also reflect the fact that the social reality of the child inevitably begins to impose increasing limits and constraints on the child's earlier or "natural" patterns of need gratification. In short, the process of socialization places a variety of demands on the infant and young child, as he learns to adjust his patterns of eating, sleeping, toileting, interacting socially with siblings and parents, etc., in accordance with the expectations and infant care practices of those responsible for his upbringing.

The issues just discussed raise many familiar questions of practical significance to parents and to those who advise parents. How much frustration should an infant or young child be expected to tolerate? How strict should parents be in toilet training, establishing eating habits, controlling anger, etc.? Isn't some frustration necessary for learning and adaptation to the environment? Is it possible to "spoil" infants very early in life? Or, more generally, are there any relationships between

particular infant care practices and later personality? These are all very large and difficult questions indeed, and many of them still cannot be answered definitively on the basis of empirical research data. They are problems which have occupied the major attention of many research workers, psychoanalysts and persons concerned with formulating infant care guidelines for parents (e.g., Salk 1969). While it isn't possible to deal with these questions in this brief discussion, there are a number of excellent critical reviews of research in the area (e.g., Caldwell 1964).

Depression

There is considerable evidence, particularly from psychoanalytically oriented observations, that under sufficiently adverse environmental conditions usually involving prolonged maternal separation, the emotion of depression, or extreme sadness, may be experienced by infants as young as twelve to fifteen months of age. For example, the British child psychiatrist, John Bowlby (1960) has observed what he regards as depressive reactions in fifteen to thirty month old healthy infants during the second phase of their response to separation from mother and admission to a hospital or other residential institution. Following the initial phase of active protest and crying (which as already indicated are typical manifestations of separation anxiety), the next phase is described by Bowlby as one of "despair" or depression. The infant becomes withdrawn and inactive, makes no demands of the environment, may cry intermittently, and his behavior suggests feelings of increasing hopelessness and sadness. Gradually the infant moves out of this phase into one of "detachment", in which he begins to interact in a pleasant but "shallow" manner with caretakers, and responds in a rather aloof and detached manner when mother visits.

The depressive reaction of the infant to loss of mother (or "object-

loss") is regarded by Engel (1962) to be so basic that we should consider depression-withdrawal, along with anxiety, as representing the two "primary" emotions or affects of unpleasure. Furthermore, Engel suggests that early forms of this emotion can be found in the passive, activity-reducing, withdrawn reactions observable even in the first few weeks of life as a response shown by some infants to prolonged thwarting of basic physiological needs. Some infants may characteristically respond to thwarting in this fashion, rather than by showing the primitive "anger" responses previously described; others manifest this withdrawn, inactive, energy-conserving response pattern when prolonged periods of active crying and increased motor activity (i.e., "anger") have failed to provide relief from thwarting or frustration.

It should be mentioned here that maternal separation after the age of six months, when the infant has established a social bond or attachment with mother, may or may not have long term consequences in terms of psychological problems in development. Such long term effects are very difficult to evaluate in research studies, and they appear to vary greatly depending on such circumstances as the nature of the social environment in which the infant is reared both before and after separation, the frequency of such separation, etc. An excellent review and discussion of these complicated issues is contained in a paper by Yarrow (1964).

Jealousy

Jealousy represents another emotional reaction commonly observed in young children from about eighteen months of age, through three and a half years. Essentially, jealousy can be viewed as an emotional response to what the child perceives as his being actually or potentially displaced by someone else in his relationship with a special person, like a parent. This

reaction appears to include elements of both fear of loss of parental affection, and anger. The anger involved may be directed at the other child or person representing the threat of displacement (e.g., a younger sibling or playmate) and/or at the parent. As in the case of some of the other emotions, such as anger, the outward manifestations of jealousy undergo considerable change with increasing maturity and development, becoming generally less direct and explosive (Munn 1965; Thompson 1962). Some workers feel that it is possible to attenuate jealousy reactions upon the arrival of a younger sibling by ensuring that the older infant is not abruptly cut off from parental attention and care, and by helping him to feel that he has a significant role to play as a model and "teacher" of the younger infant. While jealousy and sibling rivalry are common reactions, we tend to underestimate the capacity of young children for developing affectionate and sympathetic feelings toward younger siblings.

Shame

To conclude our discussion of negative emotions, we might make brief reference to the question of shame as an emotion in infancy. Although this is a particularly difficult emotion to study objectively in young children, some investigators (e.g., Schmale 1964) feel that early manifestations of "shame" can be observed beginning in the second year of life. At this point in development, shame in the infant would consist essentially of negative, self-depreciating feelings associated with recognition of the fact that his actions have failed to meet the expectations or standards of a loved person, who has communicated such expectations by expressions of disapproval and/or withdrawal of affection (e.g., the two year old's reaction when he has failed to avoid soiling his diapers when parents expect this). With increasing age, externally imposed standards or expectations regarding

a variety of performances and behavior are taken on or "introjected" as those of the young child himself, and feelings of shame and guilt at failure to live up to such standards often become intertwined.

The Positive or Pleasurable Emotions

Generally speaking, the positive or pleasurable emotions have been far less extensively studied than the negative emotions, both in early childhood and throughout the life span. This is at least partly due to the fact that such negative emotions as anxiety, fear, and anger are often associated with "problem" behavior of various sorts, and consequently they have attracted a great deal of attention and study by investigators concerned with the alleviation and prevention of problems of "adjustment" in children and adults. It is encouraging to note that in recent years, psychologists have been showing increasing interest in the role played by the positive emotions in human development.

As indicated earlier, the first clear signs of pleasure or "delight" in the infant are observable at about two to three months of age, primarily in response to the friendly, smiling, talking face of another person. Toward the end of the first year, infants show a capacity for increasingly clear and intense pleasurable reactions, including laughter, in their playful interactions with people and with material objects or toys.

As the infant continues to experience pleasure in his social interactions with the particular people with whom he is developing close relationships (parents, siblings), we can begin to speak of feelings of "affection", or perhaps of early expressions of "love". By the end of the second year, children appear to be capable of experiencing rather intense feelings of pleasure and happiness associated with particular experiences,

events, or people, so that we can begin to speak of the emotion of "joy" (Bridges 1932). The recent writings of Tomkins (1962) place great emphasis on the importance of this emotion of joy in building and maintaining the crucial social bonds between the infant and his principal caretakers, and between people generally. It is interesting to note that some observations of infants have suggested that early in the second year, when the infant begins to show affectionate behavior (such as approaching, hugging, kissing, smiling, etc.), this behavior appears to be directed first toward parents or adult caretakers, and shortly thereafter toward other young children (Bridges 1932).

A final comment should be made here about early feelings of "pride" in infants. During the second year of life, observations suggest that children begin to show the positive feelings we might identify as pride, as they become aware that some of their behaviors or activities meet the expectations of parents, as indicated by rewards of praise, special attention and affection.

In our previous discussion of the negative emotions, we gave some consideration to the question of factors which appeared to play a role in producing such emotions as anxiety, fear of strangers, and anger. How do we account for the initial appearance of various positive emotional responses shown by infants in the first two years? Traditional psychoanalytic thinkers have tended to emphasize the view that early experiences of pleasure derive primarily from gratification of basic physiological needs (e.g., hunger, thirst, pain avoidance) and of libidinal (or "sexual") drives which, in the first two years, are expressed primarily in oral (feeding, sucking) and anal (urinating, defecating) activities. Objects, persons, or events associated with such need gratification in the infant's

experience could, of course, become sources of pleasure through learning and conditioning. A rather similar view is implicit in the approach of those psychologists who have traditionally emphasized the role of "drive reduction" as the major motivational determinant of learning. Although the concepts of pleasure and displeasure are not dealt with directly in this approach, it is assumed that high levels of drive (e.g., hunger) are aversive (or unpleasant) and hence people tend to act so as to reduce high drive. Thus, as in the psychoanalytic view, the reduction of displeasure, which effectively motivates much of our behavior and learning, may be seen as representing an important source of pleasure.

In contrast with the foregoing views that most pleasure experiences of the infant derive either directly or indirectly (through learning) from the gratification of primary needs, there is considerable evidence indicating that a variety of stimuli or experiences appear to be intrinsically pleasurable for infants. As previously indicated, for example, the human face is a particularly effective elicitor of positive responses in the two to three month old infant. Rheingold (1961) has suggested that this is the case initially because the talking, smiling face of the human, with its changing expressions and movements, represents a particularly complex stimulus which is intrinsically of great interest and attraction to the young infant. Gradually, through a variety of learning experiences, the face or appearance of the parent or principal caretaker becomes an elicitor as well as a reinforcer of a variety of positive emotional and social responses in the infant. The learning experiences involved here may well include, but are not limited to, situations in which the infant associates the parent or caretaker with reduction of his "primary" needs or drives.

Some other examples of stimuli which produce smiling or other positive emotional responses in infants include: a soft, high-pitched bell at five or six months of age (Buhler & Hetzer 1935); relatively simple visual stimuli, such as a black and white cardboard oval which is rotated slowly (Salzen 1963), or visual stimuli moved slowly toward and away from the infant (Kistiakovskaia 1965); and finally, simply bouncing the five week old infant's hands together gently as though playing "pat-a-cake" (Wolff 1963).

These relatively recent observations are antedated by the very interesting early observations of Charlotte Buhler (1930) based on her work in Vienna. She noted that infants derive a good deal of pleasure in merely carrying out many simple activities (such as banging a rattle or toy against a crib), and she emphasized the view that these early pleasurable reactions ("function pleasure") play an important role in the encouragement of early learning and mastery of tasks and problems which confront the infant. Buhler's early observations and ideas are currently reflected in the increasing attention which many contemporary psychologists interested in learning and intellectual development have been directing toward the motivational influence of reactions of interest, pleasure, or curiosity generated by activities or problem solving behaviors which appear to be "intrinsically" attractive to the infant or young child (Hunt 1965; Berlyne 1966; Charlesworth 1969; White 1959; Murphy 1969).

Final Comments: the Functional Significance of Emotions in Early Development

The preceding discussion of the possible significance of pleasure and interest as factors motivating much important early learning provides a natural transition to some final comments concerning the more general

question of the functional significance of the emotions in early development. As already implied throughout this review, the emotions play a very important role in human development even as early as the first two years of life. For example, such negative emotions as fear of the strange and unexpected, or fear of maternal separation, certainly can be regarded as having some adaptive or survival value for the infant in that they alert him to potential danger and impel him to act in ways which may help him to avoid such danger. Even earlier in development, when the two to three month old infant expresses his distress or "unpleasure" through vigorous crying and increased activity, this behavior helps ensure that important physiological needs will be attended to by mother or by other caretaker. Similarly, the pleasurable social responses of the infant when played with and cared for by his parents contribute in important ways to the establishment of the social bond or attachment between parent and infant and lays the groundwork for mutually rewarding adult-child interactions as well as for adaptive interpersonal relationships later on in life. In contrast with these adaptive and integrative functions of the emotions, excessive and chronic exposure of the infant to conditions generating anxiety, fear or anger, under circumstances in which these emotions are difficult for the infant to manage, may well increase the likelihood of difficulties in subsequent personality adjustment.

While the infant's emotional experiences early in life are regarded as of great importance to subsequent development, it should be pointed out that considerable recent evidence is accumulating suggesting that there are wide individual differences in emotional or "temperamental" characteristics observable in infants from a very early age (Birns 1965; Escalona 1962, 1968; Thomas, Chess and Birch 1968). Variations in such

characteristics, which are regarded as part of the infant's natural biological or constitutional "equipment", may well make for considerable variation in the influence which given experiences or environments will have on particular infants.

In short, then, in the first two years of life the infant's emotions can be regarded as playing a key role in helping to ensure that the environment provides for his physiological needs and safety, and in establishing the early social bonds and patterns of interpersonal relationship which are of long term importance. At the same time, the emotions represent a major component of the motivational system which underlies virtually all of the infant's early learning and psychological development.

References

Ambrose, J. A. The development of the smiling response in early infancy. In B. M. Foss (Ed.) Determinants of Infant Behavior. London: Methuen, 1961, Pp. 179-201.

Berlyne, D. E. Curiosity and exploration. Science, 1966, 153, 25-33.

Birns, B. Individual differences in human neonates' responses to stimulation. Child Develpm., 1965, 36, 249-256.

Bowlby, J. Separation anxiety. Int. J. Psychoanalysis, 1960, 41, 89-113.

Bridges, K. M. B. A genetic theory of the emotions. J. Genet. Psychol., 1930, 37,514-527,

Bridges, K. M. B. Emotional development in early infancy. Child Develpm., 1932, 3, 324-341.

Buhler, C. The first year of life. New York: Day, 1930.

Buhler, C. and Hetzer, H. Testing children's development from birth to school age. New York: Farrar & Rinehart, 1935.

Caldwell, B. The effects of infant care. In M. Hoffman and L. Hoffman (Eds.) Review of Child Development Research I. New York: Russell Sage, 1964, 9-88.

Charlesworth, W. R. Persistence of orienting and attending behavior in infants as a function of stimulus-locus uncertainty. Child Develpm., 1966, 37, 473-492.

Charlesworth, W. R. The role of surprise in cognitive development. In D. Elkind and J. H. Flavell (Eds.) Studies in Cognitive Development. New York: Oxford, 1969, 257-314.

Engel, G. L. Anxiety and depression - withdrawal - the primary affects of unpleasure. Int. J. Psychoanalysis, 1962, 43, 89-97.

Escalona, S. K. Emotional development in the first year of life. Problems of Infancy and Childhood. Milton J. E. Senn (Ed.) New York: Josiah Macy Jr., Foundation, 1953, 11-92.

Escalona, S. K. The study of individual differences and the problem of state. J. Amer. Acad. Child Psychiatry, 1962, 1, 11-37.

Escalona, S. K. Roots of individuality. Chicago: Aldine Publishing Co., 1968.

Freedman, D. G. The infant's fear of strangers and the flight response. J. Child Psychol. Psychiat., 1961, 2, 242-248.

Freedman, D. G., Loring, C. B., and Martin, R. M. Emotional behavior and personality development. In: Y. Brackbill (Ed.) Infancy and Early Childhood. New York: Free Press, 1967, Ch. 8.

Freud, S. Inhibitions, Symptoms, and Anxiety. (1926) Standard Edition, London: Hogarth, 1959, 20:77.

Gewirtz, J. L. The course of infant smiling in four child-rearing environments in Israel. In B. M. Foss (Ed.) Determinants of Infant Behavior III. London: Methuen, 1965, 205-248.

Goodenough, F. L. Anger in young children. Inst. Child Welf Monogr. Ser. No. 9. Minneapolis: University of Minnesota Press, 1931.

Hamburg, D. A. Emotions in the perspective of human evolution. In P. H. Knapp (Ed.) Expression of the Emotions in Man. New York: Int'l Univ. Press, 1963, 300-317.

Harlow, H. F. The development of affectional patterns in infant monkeys. In B. M. Foss (Ed.) Determinants of Infant Behavior I. London: Methuen, New York: Wiley, 1961, 75-97.

Hebb, D. O. Emotion in man and animal. Psychol. Rev., 1946a, 53, 88-

Hebb, D. O. On the nature of fear. Psychol. Rev., 1946b, 53, 259-276.

Hunt, J. McV. Intrinsic motivation and its role in psychological development. In D. Levine (Ed.) Nebraska Symposium on Motivation. Lincoln: Univ. of Nebraska Press, 1965, 189-282.

Jersild, A. T. and Holmes, F. B. Children's fears. Child Develpm. Monogr., No. 20, New York: Columbia U. Bureau of Publ., 1935.

Jones, H. E. and Jones, Mary C. A study of fear. Childhood Educ., 1928, 5, 136-143.

Kistiakovskaia, M. I. Stimuli evoking positive emotions in infants in the first months of life. Sov. Psychol. Psychiat., 1965, 3, 39-48.

Morgan, G. and Ricciuti, H. N. Infants' responses to strangers during the first year. In B. M. Foss (Ed.) Determinants of Infant Behavior IV. London: Methuen; New York: Wiley, 1969.

Munn, N. Evolution and Growth of Human Behavior. (2nd Ed.) London: Harrap, 1965; or New York: Houghton-Mifflin, 1965, Ch. 14, Emotional development.

Murphy, L. B. Children under three - Finding ways to stimulate development. I. Issues in Research. Children, 1969, 16, 46-52.

Rheingold, Harriet L. The effect of enviromental stimulation upon social and exploratory behavior in the human infant. In B. M. Foss (Ed.) Determinants of Infant Behavior I., 1961, 143-177.

Rheingold, Harriet L. The effect of a strange environment on the behavior of infants. In B. M. Foss (Ed.) Determinants of Infant Behavior IV. London: Methuen; New York: Wiley, 1969.

Ricciuti, H. N. Social and emotional behavior in infancy: Some developmental issues and problems. Merrill-Palmer Quarterly, 1968, 14, 82-100.

Salk L. and Kramer, R. How to raise a human being. New York: Random House, 1969.

Salzen, E. Visual stimuli eliciting the smiling response in the human infant. J. Genet. Psychol., 1963, 102, 51-54.

Scarr, S. and Salapatek, P. Patterns of fear development during infancy. Merrill-Palmer Quarterly, 1970, In press.

Schachter, S. The interaction of cognitive and physiological determinants of emotional state. In L. Berkowitz (Ed.) Advances in Experimental Social Psychology. Vol. I., New York Academic Press, 1964, 49-81.

Schlosberg, Harold. Three dimensions of emotion. Psych. Review, 1954, 61, 81-87.

Schmale, A. H. A genetic view of affects. Psychoanalytic Study of the Child, 1964, 19, 287-310.

Sherman, M. The differentiation of emotional responses in infants I and II. J. Comp. Psychol., 1927, 7, 265-284; 335-351.

Spitz, R. Anxiety in infancy. Internat. J. Psychoanal., 1950, 31, 138-143.

Spitz, R. A. Ontogenesis: The proleptic function of emotion. In P. H. Knapp (Ed.), Expression of the Emotions in Man. New York: Internat. Univer. Press, 1963, 36-64.

Spitz, R. A. and Wolf, K. M. The smiling response: A contribution to the ontogenesis of social relations. Genet. Psychol. Monogr., 1946, 34, 57-125.

Stettner, L. J. and Tilde, B. N. Effect of presence of an imprinted object on response of ducklings in an open field and when exposed to fear stimulus. Psychon. Science, 1966, 4, 107-108.

Thomas, A., Chess, S. and Birch, H. G. Temperament and Behavior Disorders in Children. New York: New York Univer. Press, 1968.

Tomkins, S. S. Affect, imagery, and consciousness. Vol. I. The Positive Affects. New York: Springer, 1962.

Tomkins, S. S. and McCarter, R. What and where are the primary affects? Some evidence for a theory. Perceptual and Motor Skills, 1964, 18, 119-158.

Thompson, G. Child Psychology. Boston: Houghton-Mifflin, 1962, Ch. 8. (Developmental trends in emotional development.)

Watson, J. B. and Morgan, J. J. B. Emotional reactions and psychological experimentation. Amer. J. Psychol., 1917, 28, 163-174.

White, R. W. Motivation reconsidered: The concept of competence. Psychol. Review, 1959, 66, 297-333.

Wolff, P. H. Observations on the early development of smiling. In B. M. Foss (Ed.) Determinants of Infant Behavior: II. London: Methuen; New York: Wiley, 1963, 113-138.

Wolff, P. H. The causes, controls, and organization of behavior in the neonate. Psychol. Issues., 1966, 5, No. 17.

Yarrow, L. J. Separation from parents during early childhood. In M. L. Hoffman and Lois Hoffman (Eds.) Review of Child Development Research: I. New York: Russell Sage Found., 1964, 89-136.